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Holm himself, certainly looks quite as natural and life-like as any specimen of a recent arthropod exhibited in the museum.

The geological department hopes to have a limited number of copies of this model, which it is prepared to exchange with other museums. Naturally a model of this nature, which has taken a very long time to make, demands an exchange of considerable value, but for information on this matter inquiries should be addressed to the keeper of the geological department, Natural History Museum, Cromwell Road, London, S. W., England.

THE RESEARCH LABORATORY OF PHYSICAL CHEMISTRY OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY

THIS laboratory opened on September 1 for its fifth year. Professor G. N. Lewis has been appointed acting director of the laboratory, in place of Professor A. A. Noyes, who is temporarily acting as president of the institute. Investigations are being carried on in the laboratory by sixteen men of whom ten are devoting their whole time to research work. The new members of the research staff are Professor Carl von Ende (Ph.D., Göttingen), Mr. John Johnston (B.Sc., St. Andrews) and Mr. Roger D. Gale (S.B., Massachusetts Institute of Technology). Mr. R. B. Arnold (S.B., Rose Polytechnic Institute) enters as a candidate for the degree of doctor of philosophy. This degree was conferred last June on three of the research workers in the laboratory, Messrs. Raymond Haskell, R. B. Sosman and M. A. Stewart.

As in the past, a considerable part of the research work bears upon the problems of conductivity in aqueous solutions at high temperatures. The results of the numerous investigations in this field, which have already been completed in this laboratory, have recently appeared in a comprehensive memoir published by the Carnegie Institution. A new form of conductivity bomb, capable of withstanding very high pressures, has recently been constructed. In this bomb the vapor-pressure, density and compressibility of water up to the critical point are being studied, as

well as the influence of pressure upon the electrical conductivity of solutions. Closely allied investigations are being made upon electrical transference in mixed salt solutions, the solubility of salts in water at high temperatures, and the dielectric constant of water up to its critical point.

In another field of investigation which is receiving special attention in this laboratory several investigations are under way. These are directed towards the determination of the common electrode potentials, and of the free energy of important chemical reactions. Indirectly but vitally connected with these researches is an investigation of the specific heat of gases at very high temperatures, which is now being undertaken by Professor H. M. Goodwin and Dr. H. T. Kalmus.

The general scheme of qualitative analysis, developed by Professor A. A. Noyes and Dr. W. C. Bray, is being extended to include the detection of the acids. Other investigations begun in previous years on the hydration and the true transference numbers of the ions, on the electromotive force produced in a solution by rotating it at a very high rate of speed, and on the properties of the solutions of metals in liquid ammonia, are being brought to a successful conclusion. Mr. C. A. Kraus, who is carrying on the last-named investigation, has succeeded in finding the missing link between the metallic and the electrolytic conductor, and has thus obtained a new point of attack for the problem of the electron.

During the past year a gift of \$500 has been received from the William E. Hale Research Fund and one of \$3,000 from a private source in support of the work of the laboratory. In addition, Professor A. A. Noyes has received a grant of \$2,000 from the Carnegie Institution for assistance in carrying on the researches above referred to on the conductivity of aqueous solutions.

THE CHICAGO MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE program for the *entire meeting* will be issued on Monday, December 30. Copies may be obtained at hotel headquarters and at the